

10/18 #11



OIPE

RAW SEQUENCE LISTING

PATENT APPLICATION: US/09/907,907A

DATE: 10/21/2002

TIME: 15:32:33

Input Set : A:\EP.txt

Output Set: N:\CRF4\10212002\I907907A.raw

ENTERED  
p.6

4 <110> APPLICANT: Fisher, Paul B.  
5 Leszczyniecka, Magdalena  
7 <120> TITLE OF INVENTION: GENES DISPLAYING ENHANCED EXPRESSION DURING CELLULAR  
SENESCENCE AND  
8 TERMINAL CELL DIFFERENTIATION AND USES THEREOF  
11 <130> FILE REFERENCE: A34584-A-PCT-USA (070050.1664)  
C--> 13 <140> CURRENT APPLICATION NUMBER: US/09/907,907A  
C--> 14 <141> CURRENT FILING DATE: 2001-07-16  
16 <150> PRIOR APPLICATION NUMBER: US 09/243,277  
17 <151> PRIOR FILING DATE: 1999-02-02  
19 <160> NUMBER OF SEQ ID NOS: 51  
21 <170> SOFTWARE: FastSEQ for Windows Version 4.0  
23 <210> SEQ ID NO: 1  
24 <211> LENGTH: 674  
25 <212> TYPE: DNA  
26 <213> ORGANISM: Homo sapiens  
28 <220> FEATURE:  
29 <221> NAME/KEY: unsure  
30 <222> LOCATION: 534, 590  
31 <223> OTHER INFORMATION: a or g or c or t  
33 <400> SEQUENCE: 1  
34 aattcggcac gagcacgtct tgaccttgaa cgcaagtggt aatctttgca agaagagatt 60  
35 gcctttttga agaaactcca cgaagaggaa atccaggagc tgcaggctca gattcaggaa 120  
36 cagcatgtcc aaatcgatgt ggatgtttcc aagcctgacc tcacggctgc cctgcgtgac 180  
37 gtacgtcagc aatatgaaag tgtggctgcc aagaacctgc aggaggcaga agaattggtac 240  
38 aaatccaagt ttgtgacct ctctgaggct gccaacggga acaatgacgc cctgcgccag 300  
39 gcaaaagcagg agtccactga gtaccggaga cagggtgcagt ccctcacctg tgaagtggat 360  
40 gcccttaaag gaaccaatga gtccctggaa cgccagatgc gtgaaatgga agagaacttt 420  
41 gccgttgaag ctgctaacta ccaagacact attggcccgc ctgcaggatg agattcagaa 480  
W--> 42 tatgaaggag gaaatggctc gtcaccttcg tgaataccaa gacctgctca atgntaagat 540  
W--> 43 ggcccttgac attgagattg ccacctacag gaagctgctg ggaaggcgan gagagcagga 600  
44 ttctctgtct ctccaaact ttctctcctt gaccttgagg gaaactaatc tggattcact 660  
45 ccctcttggg tgaa 674  
47 <210> SEQ ID NO: 2  
48 <211> LENGTH: 678  
49 <212> TYPE: DNA  
50 <213> ORGANISM: Homo sapiens  
52 <220> FEATURE:  
53 <221> NAME/KEY: unsure  
54 <222> LOCATION: 566, 669  
55 <223> OTHER INFORMATION: a or g or c or t  
57 <400> SEQUENCE: 2  
58 aattcggcac gagcaggacc caaggaacca aaattgcac tcatggtctc aagggtcgtg 60  
59 tgtttgaagt gactcttgct gatttgacaga atgatgaagt tgcattagaa aattcaagct 120

## RAW SEQUENCE LISTING

DATE: 10/21/2002

PATENT APPLICATION: US/09/907,907A

TIME: 15:32:33

Input Set : A:\EP.txt

Output Set: N:\CRF4\10212002\I907907A.raw

```

60 gattactgaa gatgttcagg gtaaaaactg cctgactaac ttccatggca tggatcttac 180
61 ccgtgacaaa atgtgttcca tgggtcaaaa atggcagaca atgattgaag ctacagttga 240
62 tgtcaagact accgatggtt acttgcttcg totgttctgt gttggtttta ctaaaaaacg 300
63 caacaatcag atacggaaga cctcttatgc tcagcaccaa caggtccgcc aaatccggaa 360
64 gaagatgatg gaaatcatga cccgagaggt gcagacaaat gacttgaaag aagtgggtcaa 420
65 taaattgatt ccagacagca ttggaaaaga catagaaaag gcttgccaat ctatttatcc 480
66 tctccatgat gtcttcgtta gaaaagtaaa aatgctgaag aagcccaagt ttgaattggg 540
W--> 67 aaagctcatg gagcttcatt gtgaanggca gtagttctgg aaaaagccac ttggggacga 600
68 aacaggtgct aaaagtttga acgactgatg gatattgaac cccagtccaa gaatctgggt 660
W--> 69 aaaggtcana cttcaaat 678
71 <210> SEQ ID NO: 3
72 <211> LENGTH: 670
73 <212> TYPE: DNA
74 <213> ORGANISM: Homo sapiens
76 <220> FEATURE:
77 <221> NAME/KEY: unsure
78 <222> LOCATION: 656
79 <223> OTHER INFORMATION: a or g or c or t
81 <400> SEQUENCE: 3
82 aattcggcac gaggatgatg accttcaaga aaatgaagac aataaacaac ataaagaaag 60
83 cttgaaaaga gtgacctttg ctttaccaga tgatgcggaa actgaagata caggtgtttt 120
84 aaatgtaaag aaaaattctg atgaagttaa atcctccttt gaaaaaagac aggaaaagat 180
85 gaatgaaaaa attgcatctt tagaaaaaga gttgttagaa aaaaagccgt ggcaacttca 240
86 ggggggaagt acagcacaga agagccaga gaacagcctc ctggaggaga ccctacactt 300
87 tgaccatgct gtccggatgg cacctgtgat tacagaggaa accacccttc aactggaaga 360
88 tatcattaaa cagaggataa gagatcaggc ttgggatgat gtagtacgta aagaaaaacc 420
89 taaagaggat gcatatgaat ataaaaagcg tttaacctta gaccatgaga agagtaaatt 480
90 gaggccttgct gaaatttatg aacaggagta catcaaaactc aaccagcaaa aaacagcaga 540
91 agaagaaaat ccagaacatg tagaaattca gaagatgatg gattccctct tcttaaattg 600
W--> 92 gatgcctctc aaacttcctt ttatccctta accgcctgtc cagagattaa agttgngggc 660
93 aaatctgcca 670
95 <210> SEQ ID NO: 4
96 <211> LENGTH: 675
97 <212> TYPE: DNA
98 <213> ORGANISM: Homo sapiens
100 <220> FEATURE:
101 <221> NAME/KEY: unsure
102 <222> LOCATION: 530, 534, 650, 651, 655
103 <223> OTHER INFORMATION: a or g or c or t
105 <400> SEQUENCE: 4
106 aattcggcac gagatctgct gcaagcagcc aaatgttatg agaaggaact gggccgcctg 60
107 ctaagggatg ccccttcagg cataggcagt attttcctgt cagcatctga gcttgaggat 120
108 ggtagtgagg aaatgggcca gggcgagtc agctccagtc ccagagagct cctctctaac 180
109 tcagagcaac tgaactgaga cagaggagga aaacagagca tcagaagcct gcagtgggtg 240
110 ttgtgacggg taggaggata ggaagacagg gggccccaac ctgggattgc tgagcaggga 300
111 agctttgcat gttgctctaa ggtacatttt taaagagttg ttttttggcc gggcgagtg 360
112 gctcatgcct gtaatccag cactttggga ggccgaggtg ggcggatcac gaggtctgga 420
113 gtttgagacc atcctggcta acacagtga atcccgctct tactaaaaat acaaaaaatt 480
W--> 114 agccaggcgt ggtggctggc acctgtagtc ccagctactt gggagctgan gcangagaat 540

```

## RAW SEQUENCE LISTING

DATE: 10/21/2002

PATENT APPLICATION: US/09/907,907A

TIME: 15:32:33

Input Set : A:\EP.txt

Output Set: N:\CRF4\10212002\I907907A.raw

```

115 ggcgtgaacc tggaaggaag aagttgcagg tgagcccaag attgcgcccc cttgcactcc 600
W--> 116 agctgggcaa cagagcaaga cttcatctca aaaaaaaaaa aaaaaaactn ncggnggggg 660
117 gcccccgggc cccca 675
119 <210> SEQ ID NO: 5
120 <211> LENGTH: 460
121 <212> TYPE: DNA
122 <213> ORGANISM: Homo sapiens
124 <220> FEATURE:
125 <221> NAME/KEY: unsure
126 <222> LOCATION: 411, 412, 415, 416, 423, 430, 433, 439, 442, 446, 452, 454,
127 456, 457
128 <223> OTHER INFORMATION: a or g or c or t
130 <400> SEQUENCE: 5
131 aattcggcac gagcacctct gtgtctacca tgaccccctt cctcacactg acctgtgttc 60
132 cttccctggt ctcttttcta ttaaaaataa gaacctgggc agagtgcggc agctcatgcc 120
133 tgtaatccca gcaacttagg aggccgagga gggcagatca cgaggtcagg agatcgaaac 180
134 catcctggct aacacggtga aaccccgctct ctactaaaaa atacaaaaaa ttagctgggc 240
135 gcagaggcac gggcctgtag tcccagctac tcaggaggcg gaggcaggag aatggcgctca 300
136 acccgggagg cggagggttc agtgagccag gattgtgcga ctgcactcca gcctgggtga 360
W--> 137 cagggtgaaa cgccatctca aaaaataaaa attaaaaaaa aaaaaaaaaa nntcnnnggg 420
W--> 138 ggncccggtg ccnatttcnc cntatnggga gncntnncaa 460
140 <210> SEQ ID NO: 6
141 <211> LENGTH: 445
142 <212> TYPE: DNA
143 <213> ORGANISM: Homo sapiens
145 <400> SEQUENCE: 6
146 aattcggcac gagttctgcc catgctgcag acagtggcca agaacaagga ccagggcacc 60
147 tatgaggatt atgtogaagg acttcgggtg ttgacaagg aaggaaatgg caccgtcatg 120
148 ggtgctgaaa tccggcatgt tcttgtcaca ctgggtgaga agatgacaga ggaagaagta 180
149 gagatgctgg tggcagggca tgaggacagc aatgggtgta tcaactatga agagctcgtc 240
150 cgcattggtc tgaatggctg aggaccttcc cagtctcccc agagtccgtg cctttccctg 300
151 tgtgaatttt gtatctagcc taaagtttcc ctaggctttc ttgtctcagc aactttccca 360
152 tcttgtctct cttggatgat gtttgccgtc agcattcacc aaataaactt gctctctggg 420
153 ccctcggaia aaaaaaaaaa aaaaa 445
155 <210> SEQ ID NO: 7
156 <211> LENGTH: 666
157 <212> TYPE: DNA
158 <213> ORGANISM: Homo sapiens
160 <220> FEATURE:
161 <221> NAME/KEY: unsure
162 <222> LOCATION: 483, 498, 527
163 <223> OTHER INFORMATION: a or c or g or t
165 <400> SEQUENCE: 7
166 aattcggcac gaggcaatgt gcttggtttt aaagaaatc tccttgggaa aaaagtatcc 60
167 tcttttaatt ttacttccca taagcgtaaa tgccctggaca tagctcttgt gcaaccttta 120
168 aataaattgt tttagagtgt ttttgagccc cagacaaata atgttttaaa gttatcccct 180
169 tgctacttta ctgatacctt tatcattcct gagacagttt gctaatttaa aaatgtagca 240
170 ttccatttgt atttatttct ctcccttgcc aaaaagattt tctaatactg cttgtaccag 300
171 ccagagaaag atccaaaaca ctactcagct ctcttgccact gaggaaattt ttccccctac 360

```

## RAW SEQUENCE LISTING

DATE: 10/21/2002

PATENT APPLICATION: US/09/907,907A

TIME: 15:32:33

Input Set : A:\EP.txt

Output Set: N:\CRF4\10212002\I907907A.raw

```

172 attgactcct ggcctacatc agccaaactt aaccttgggtg gggtttggat ttgatagcca 420
173 attagttctg tgctggttgc aaagaattga tatttagatg gtttttaata ctcagcagat 480
W--> 174 tgnccttcctt tatattgngt cttttttatg ttgcatgttg cttttgntat cagcctgatt 540
175 ttttgctcag tatatgatag ttctgctgat ggtttggtta ttgggcagac atatcttcat 600
176 taagagtttt tggaaaactc atcaaattcg atgaatacat tttcttcata acccattgga 660
177 aatatac 666
179 <210> SEQ ID NO: 8
180 <211> LENGTH: 409
181 <212> TYPE: DNA
182 <213> ORGANISM: Homo sapiens
184 <400> SEQUENCE: 8
185 aattcggcac gagcgactac ggcggactaa tcttcaactc ctacatactt cccccattat 60
186 tcctagaacc aggcgacctg cgactccttg acgttgacaa tcgagtagta ctcccgattg 120
187 aagcccccat tcgtataata attacatcac aagacgtctt gcactcatga gctgtcccca 180
188 cattaggctt aaaaacagat gcaattcccg gacgtctaaa ccaaaccact ttcaccgcta 240
189 cacgaccggg ggtatactac ggtcaatgct ctgaaatctg tggagcaaac cacagtttca 300
190 tgcccatcgt cctagaatta attcccctaa aaatctttga aatagggccc gtatttacct 360
191 tatagcacc cctctacccc ctctagagca aaaaaaaaaa aaaaaaaaaa 409
193 <210> SEQ ID NO: 9
194 <211> LENGTH: 667
195 <212> TYPE: DNA
196 <213> ORGANISM: Homo sapiens
198 <220> FEATURE:
199 <221> NAME/KEY: unsure
200 <222> LOCATION: 436, 663
201 <223> OTHER INFORMATION: a or c or g or t
203 <400> SEQUENCE: 9
204 aattcggcac gagacaaggc acaaatgata caaatcaagg aggctacaaa agggcagcct 60
205 agagggcaga acagagaaaa gctagacaaa atgataagat cagccatatt tcattttgaa 120
206 tctgcagtgg aaaaaaagcc cacatttgag gtggctcatc tagacctggc aagaatgtat 180
207 atagaagcag gcaatcacag aaaagctgaa gagaattttc aaaaattggt atgcatgaaa 240
208 ccagtggtag aagaacaat gcaagacata catttccact atggctcgggt tcaggaattt 300
209 caaaagaaat ctgacgtcaa tgcaattatc cattatttaa aagctataaa aatagaacag 360
210 gcatcattaa caagggataa aagtatcaat tctttgaaga aattggtttt aaggaaactt 420
W--> 211 cggagaaagg cattanactg gaaagcttga gcctccttgg gttegtctac aaattggaag 480
212 gaaatatgaa tgaagccctg gagtactatg agcgggccct gagactggct gctgactttg 540
213 agactctgtg agacaaggct cttagcccca gatatcagcc ctttccattt catttcattt 600
214 tatgctaaca ttactaate atcttttctg cttactggtt tcagaacctt ataattccct 660
W--> 215 ggnatga 667
217 <210> SEQ ID NO: 10
218 <211> LENGTH: 672
219 <212> TYPE: DNA
220 <213> ORGANISM: Homo sapiens
222 <220> FEATURE:
223 <221> NAME/KEY: unsure
224 <222> LOCATION: 585
225 <223> OTHER INFORMATION: a or c or g or t
227 <400> SEQUENCE: 10
228 aattcttctt gtacgattgg ggatataacg ggcttcacta accttcccta ggcattgaaa 60

```

## RAW SEQUENCE LISTING

DATE: 10/21/2002

PATENT APPLICATION: US/09/907,907A

TIME: 15:32:33

Input Set : A:\EP.txt

Output Set: N:\CRF4\10212002\I907907A.raw

```

229 cttcccccaa atctgatgga cctagaagtc tgcttttgta cctgctgggc cccaaagttg 120
230 ggcatttttc tctctgttcc ctctcttttg aaaatgtaaa ataaaaccaa aaatagacaa 180
231 cttttttcttc agccattcca gcatagagaa caaaccttat ggaaacagga atgtcaattg 240
232 tgtaatcatt gttctaatta ggtaaataga agtccttatg tatgtgttac aagaatttcc 300
233 cccacaacat cttttatgac tgaagttcaa tgacagtttg tgtttggtgg taaaggattt 360
234 tctccatggc ctgaattaag accattagaa agcaccaggc cgtgggagca gtgaccatct 420
235 gctgactgtt cttgtggatc ttgtgtccag ggacatgggg tgacatgcct cgtatgtgtt 480
236 agagggtgga atggatgtgt ttggcgctgc atgggatctg gtgccccctc tctcctggat 540
W--> 237 tcacatcccc acccagggcc cggttttact aagtgtctgc cctanattgg gtcaaaggag 600
238 gtcatccaac tgactttatc aagtggaatt gggatatatt tgatatactt ctggctaaca 660
239 acatgggaaa ag 672
241 <210> SEQ ID NO: 11
242 <211> LENGTH: 672
243 <212> TYPE: DNA
244 <213> ORGANISM: Homo sapiens
246 <220> FEATURE:
247 <221> NAME/KEY: unsure
248 <222> LOCATION: 585
249 <223> OTHER INFORMATION: a or c or g or t
251 <400> SEQUENCE: 11
252 aattcttcct gtacgattgg ggatataacg ggcttcacta accttcccta ggcattgaaa 60
253 cttcccccaa atctgatgga cctagaagtc tgcttttgta cctgctgggc cccaaagttg 120
254 ggcatttttc tctctgttcc ctctcttttg aaaatgtaaa ataaaaccaa aaatagacaa 180
255 cttttttcttc agccattcca gcatagagaa caaaccttat ggaaacagga atgtcaattg 240
256 tgtaatcatt gttctaatta ggtaaataga agtccttatg tatgtgttac aagaatttcc 300
257 cccacaacat cttttatgac tgaagttcaa tgacagtttg tgtttggtgg taaaggattt 360
258 tctccatggc ctgaattaag accattagaa agcaccaggc cgtgggagca gtgaccatct 420
259 gctgactgtt cttgtggatc ttgtgtccag ggacatgggg tgacatgcct cgtatgtgtt 480
260 agagggtgga atggatgtgt ttggcgctgc atgggatctg gtgccccctc tctcctggat 540
W--> 261 tcacatcccc acccagggcc cggttttact aagtgtctgc cctanattgg gtcaaaggag 600
262 gtcatccaac tgactttatc aagtggaatt gggatatatt tgatatactt ctggctaaca 660
263 acatgggaaa ag 672
265 <210> SEQ ID NO: 12
266 <211> LENGTH: 669
267 <212> TYPE: DNA
268 <213> ORGANISM: Homo sapiens
270 <220> FEATURE:
271 <221> NAME/KEY: unsure
272 <222> LOCATION: 587, 595, 600, 660, 662
273 <223> OTHER INFORMATION: a or c or g or t
275 <400> SEQUENCE: 12
276 aattcctaga caccaaatac agtgtgggaa tacacaacct actagcctat gtgaaacacc 60
277 tgaaaggcca gaatgaggaa gccctgaaga gcttaaaaga agctgaaaac ttaatgcagg 120
278 aagaacatga caaccaagca aatgtgagga gtctggtgac ctggggcaac tttgcctgga 180
279 tgtattacca catgggcaga ctggcagaag ccagactta cctggacaag gtggagaaca 240
280 tttgcaagaa gctttcaaat cccttcgct atagaatgga gtgtccagaa atagactgtg 300
281 aggaaggatg ggccttgctg aagtgtggag gaaagaatta tgaacgggcc aaggcctgct 360
282 ttgaaaaggt gcttgaagtg gaccctgaaa accctgaatc cagcgctggg tatgcgatct 420
283 ctgcctatcg cctggatggc tttaaattag ccacaaaaaa tcacaagcca ttttctttgc 480

```

RAW SEQUENCE LISTING ERROR SUMMARY  
PATENT APPLICATION: US/09/907,907A

DATE: 10/21/2002  
TIME: 15:32:34

Input Set : A:\EP.txt

Output Set: N:\CRF4\10212002\I907907A.raw

Please Note:

Use of n and/or Xaa have been detected in the Sequence Listing. Please review the Sequence Listing to ensure that a corresponding explanation is presented in the <220> to <223> fields of each sequence which presents at least one n or Xaa.

Seq#:1; N Pos. 534,590  
Seq#:2; N Pos. 566,669  
Seq#:3; N Pos. 656  
Seq#:4; N Pos. 530,534,650,651,655  
Seq#:5; N Pos. 411,412,415,416,423,430,433,439,442,446,452,454,456,457  
Seq#:7; N Pos. 483,498,527  
Seq#:9; N Pos. 436,663  
Seq#:10; N Pos. 585  
Seq#:11; N Pos. 585  
Seq#:12; N Pos. 587,595,600,660,662  
Seq#:13; N Pos. 530,585,600,616,654,702  
Seq#:16; N Pos. 6,7,14,359,383,449,456,459,473,501,504,515,518,528,532,535  
Seq#:16; N Pos. 538,549,562,567,568,577,579,601,603,614,618,622,626,633,636  
Seq#:16; N Pos. 641,678,683,692,708  
Seq#:17; N Pos. 158,159,161,163,176,182,186,189,191,193,197,199,200,202,203  
Seq#:18; N Pos. 479  
Seq#:20; N Pos. 556,558,587  
Seq#:21; N Pos. 389,396,400,409,418,429,463,468,520,556,575,591,594,613,635  
Seq#:21; N Pos. 641,650,666,680,682,700,704  
Seq#:23; N Pos. 21  
Seq#:24; N Pos. 368,370,372,374,375,376,377,383,386,389  
Seq#:26; N Pos. 386,389,390,397,404,409,413,416,424,426,430  
Seq#:27; N Pos. 288,298,345,348,352,357,358,368  
Seq#:29; N Pos. 495,508,511,526,530  
Seq#:30; N Pos. 274,278,283,291,308,314,324,326,327,331,341,355,371,419,461  
Seq#:30; N Pos. 531,534,545,558  
Seq#:32; N Pos. 342,355,365,368,375,381,385,414,445  
Seq#:33; N Pos. 434,459,460  
Seq#:36; N Pos. 8  
Seq#:37; N Pos. 546,553,573  
Seq#:38; N Pos. 444,448,451,460,461,462,468,471,476,490,506,510,514,522,524  
Seq#:38; N Pos. 535,550,563,567,568,573,579,587,590,592,593,596,608,615